Reports of three organizations' members about doctor of nursing practice project experiences and outcomes

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ABSTRACT

Background: Holders of the Doctor of Nursing Practice (DNP) degree were envisioned to improve health and health care outcomes by implementing quality improvement initiatives, applying evidence-based practice changes (EBP), and influencing policy. Little is known about the nature of the DNP project experience and its relationship with subsequent experiences of graduates. Filling these knowledge gaps is important because of the investment of time, faculty and student effort, expense, and the projects' potential long-term effects on the organizations in which they were conducted.

Purpose: (1) Describe the impetus for foci, outcomes and activities of DNP projects and (2) determine the extent to which project foci are a part of post-graduation experiences.

Methods: A cross-sectional descriptive survey design was used and a via mailed paper and online version was sent with return options to graduates of Doctor of Nursing Practice program. The sampling technique was designed to maximize the capture of DNP graduates. Three mailings were sent to 5,830 nurse members of three national organizations with memberships that included advanced practice registered nurses, nurse administrators and nurse educators. The 1,308 DNP prepared respondents were demographically and geographically representative of organizational members.

Findings: Most (65.2%) reported the topic of the project was their own idea and they sought out an organization in which to conduct it. Twenty-five percent indicated not all aspects of the reorganization/initiative/policy change were completed by graduation. Five project foci emerged with the majority reporting an EBP initiative or an EBP project involving reorganization in the setting (57.7%) There was also a wide variation in the number, types and combinations of activities reported to be a part of the project. There was wide variation in the relationship of project foci and activities with reports of post-graduation experience by position title.

Discussion/Conclusion: Findings suggest potential avenues for innovations during the DNP project experience innovations. Long term effects of projects on organizations in which they were conducted and the relationship of project activities with post-graduation roles should be considered.

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Overview

The Doctor of Nursing Practice (DNP) is an established clinical doctorate that was envisioned by the American Association of Colleges of Nursing to enhance nurses' abilities to improve nursing practice and patient outcomes (American Association of Colleges of Nursing, 2006, 2015). The DNP Essentials document identified the DNP graduate as practicing at the most advanced level of nursing, with a focus on improving health outcomes for individuals or populations (American Association of Colleges of Nursing, 2006). The achievement of improved patient and service outcomes has been identified as the ultimate goal of the practice doctorate (Moran, Burson, & Conrad, 2016; Zaccagnini & White, 2015).

A key element in developing the graduates' abilities to improve outcomes is the DNP project (previously referred to as the capstone project). The DNP project was conceptualized as a specific project that demonstrated synthesis of the student's learning, which laid the groundwork for future scholarship (American Association of Colleges of Nursing, 2006). Unlike a traditional dissertation, the DNP project was described as having many goals such as program evaluation, quality improvement, or clinical change initiatives rather than the discovery of new knowledge (American Association of Colleges of Nursing, 2006).

There is some information that DNP graduates improve health care outcomes when they implement quality improvement initiatives, apply evidence-based practice changes, and explore the impact of system and practice changes (Murphy, Magdic, & Allison, 2017). Little information exists about DNP project impetus and completion status. Most of the more than 30 articles and position papers about DNP projects found in the literature were based on opinions about the project as a learning experience or described project parameters and changes in approaches at individual educational institutions. Reviews focused on the DNP project have addressed issues related to variations in formats and focus areas (Dols, Hernandez, & Miles, 2017; Gardenier, Schreibman, & Henrich, 2017; Holly, 2014; Kirkpatrick & Weaver, 2013; Mayo, 2017; Miley & Reinisch, 2016; Miller & Andrist, 2012; Moran et al., 2016; Terhaar & Sylvia, 2016). Of note is a recent survey of 90 DNP program directors that identified continued lack of agreement about aspects of the final scholarly project; 78% of respondents indicated they were somewhat or very dissatisfied with the DNP project (Dols et al., 2017). Additionally, a study focused on assessing the rigor and value of DNP scholarly projects found that among 65 projects from 42 different programs selected from online repositories and the ProQuest dissertation/theses database, wide variability in rigor and value existed with a lack of critical evaluation of implementation and outcomes in many projects, including invalid data analysis among other issues (Roush & Tesoro, 2018).

DNP projects have been reported to focus on improving safety and quality of care; systems change initiatives, clinical program evaluation, and implementation of evidence-based practice or research application (Kirkpatrick & Weaver, 2013; Miley & Reinisch, 2016; Miller & Andrist, 2012). No work has linked project impetus, activities, and completion status with activities after graduation. These areas are important to explore given the time, effort, and expense of DNP projects to the student, the faculty and the institutions in which they are conducted. Having knowledge about these elements can help program faculty as they work to modify institutional and accreditation policies related to the DNP project. The purposes of this paper are to (a) describe the impetus, foci, and activities of the DNP project and (b) relate project foci with postgraduation experiences.

Participants

To reach a large number of DNP prepared individuals, subjects were drawn from three national organizations with memberships that include DNP prepared practitioners, educators, and clinical leaders: the American Organization of Nurse Executives (AONE), the American Association of Nurse Practitioners (AANP), and the American Association of Nurse Anesthetists (AANA). The number of individual names from each organization was a function of a desire to generate a large enough number of respondents from each organization to achieve statistically robust number of responses, an anticipated response rate of 30%, and the realities that the three organizations varied in their ability to identify DNP holders. Random selection of DNP prepared individuals was obtained from AANP ($n = 2,000$). AANA provided a membership list of 1,283 individuals representing all DNP members of the organization. Due to inability to specifically identify DNP members, an oversampling ($n = 2,606$) was obtained from AONE. Collectively, the study survey was sent to 5,830 nurses. The 2017 survey was sent three times to maximize opportunities for participation.

Methods

A cross-sectional descriptive design was employed using data gathered via a mailed paper version with a paper or online return option using Research Electronic Data Capture (REDCap) (Harris et al., 2009). The study was approved as "exempt" by the Institutional Review Board of Vanderbilt University. A 26-item survey assessed

employment since obtaining the DNP, scholarship before and after obtaining the DNP, the focus of the DNP project, and perceptions of the DNP degree. The survey was adapted from the authors' prior work. The components related to labor participation and post-DNP graduation activities are discussed in Minnick, Kleinpell & Allison (2019).

Instrument Items Related to the DNP Project

As part of the measurement instrument, subjects were asked if the DNP project was focused on clinical practice, care delivery reorganization, an evidence-based practice initiative, and/or a public or professional organizational policy change. Eleven specific activities of the DNP project that were assessed included survey work, interviews, information technology development, program development, program evaluation, educational activities (public, patients/families, health professionals, health professions students, tool development other than a survey), and any other areas specified by the respondent.

Fourteen specific possible outcomes of the DNP project including whether the project resulted in guideline development/evaluation, patient-/family-focused care, care delivery models, teaching/learning/knowledge, perceptions/attitudes/belief, barriers to care, risk assessment, satisfaction, or other area of focus were assessed. Subjects were asked about the project impetus (e.g., whether identified as a need by an organization or as an idea developed by the DNP graduate or other), as well as their leadership roles. Completion status was assessed through a yes/no format in response to the question if all aspects of the reorganization/initiative/policy change had been completed.

Statistical analyses were performed using SPSS (version 24) (IBM SPSS Statistics, 2016). Frequency distributions of item responses for the sample were generated and cross-tabulations were used to examine differences by foci and by DNP position (faculty, nurse practitioner [NP], certified registered nurse anesthetist [CRNA], and nurse administrator). Given the large number of subjects, statistical significance was achieved for all tests, thus meaningful differences are addressed.

Findings

Response Rates and Subjects

The return rate was 32% (N = 1,846) with organization specific rates ranging from 26% (AONE) to 37% (AANP). Less than 100 respondents indicated belonging to more than one of these organizations. As measured by American Hospital Association geographic division residence, the response was representative of the country with nine regions achieving a 31% to 33% response rate. The West South Central (Arkansas, Louisiana, Oklahoma, and Texas) division achieved a response rate of 27.3%. The response by geographic division was also representative of the country in proportion to the mailing list base. The 1,308 respondents (70.8% of the total) who reported holding a DNP formed the basis for the analyses that follow.

Nineteen percent of the DNP respondents were male. Eighty-eight percent were white, 3.7% were Asian, and 3.7% were African American. The remainder (5%) were American Indian Alaskan Native or Native Hawaiian or other Pacific Islander. Four and a half percent of respondents noted they were Hispanic or Latino(a). The mean age of respondents was 49.3 (standard deviation [SD] 10.7). The mean age (SD) at graduation from the DNP was 45.4 (10.3). The mean year(s) since DNP graduation was 3.9 (SD 2.8) with a range from less than 1 year to greater than 20 years.

The majority (59.5%) reported working full time in one job, and 31.5% reported working full time in one job and part time in another. Less than 5% reported not working at all. Almost half (45.3%) worked in hospitals, 22.4% in ambulatory care, and 17.5% in nursing education with the remainder in settings such as government, industry, schools, and occupational health. Four position titles described the majority of respondents: 34.9% were NPs, 26.9% CRNAs, 18.2% administrator or assistant administrators in health care setting, and 16.7% faculty or administrators in nursing education. More details about respondents are available at Minnick, et al. (2019).

Aim 1

Impetus. Almost 29% of projects were already identified as a need or action priority by an organization and 6.2% were identified by faculty, DNP programs, or other sources. The majority of projects (65.2%) were the students' ideas and the students sought organizations for the projects. Members of AONE were almost twice as likely as AANP and AANA members to report the project impetus was a priority already identified by an organization (45.8% vs. 25.8% and 23.2%).

Project Completion. Project completion was defined as all elements of the intended change/initiative/improvement were finished when the students graduated. For example, if the project was one to reorganize practice, the elements of the practice change would be complete at the time of graduation. If the project was curricular change, the curriculum would be changed by the time of graduation. This approach was taken because of (a) interest in the extent to which students experience all stages of an intervention including completion and (b) the need to begin to determine the proportion of organizational projects that may not have had all aspects of the project completed during the student's DNP project timeline. In 25% of the degree projects, all aspects of the intended change were not yet completed at the time of graduation. Of these, 56% were organizationally identified projects and 44% were student identified. In projects involving a reorganization element, those suggested by

Table 1 – Project Activities by DNP Project Focus(i)

Project Activities	DNP Project Foci (N = 1,176) (%)					
	REORG (1) (n = 151)	EBP + EBP/REOR (2) (n = 755)	POLIC (3) (n = 71)	ALL (4) (n = 151)	POLICY/EB (5) (n = 48)	Total (N = 1,176)
Educate						
Public*	15.9	21.7	40.8	46.4	29.2	25.6
Patients/others*	32.5	39.2	18.3	59.6	35.4	39.5
Health profession students*	15.2	26.1	35.2	41.7	43.8	28.0
Health professionals	70.9	80.3	71.8	90.7	83.3	80.0
Develop						
Program*	38.4	44.2	47.9	71.5	43.8	47.2
Tools other than survey or guide*	24.5	31.4	16.9	53.0	29.2	32.3
Information technology*	12.6	18.4	12.7	31.8	25.0	19.3
Conduct						
Surveys*	41.7	49.7	56.3	61.6	64.6	51.2
Interviews*	27.8	26.9	28.2	50.3	31.3	30.3
>1 comparison group*	28.5	33.6	19.7	43.0	37.5	33.5
Evaluate program*	37.7	45.7	40.8	70.9	56.3	48.0

Notes. ALL, clinical practice/care delivery reorganization and evidence-based practice initiative and public and/or professional organizational policy change; EBP + EBP/REORG, evidence-based practice initiative only or with clinical practice/care delivery reorganization; POLICY, public and/or professional organizational policy change only; POLICY/EBP, public and/or professional organizational policy change and evidence-based practice initiative; REORG, clinical practice/care delivery reorganization only.
The number of subjects reporting activities across categories varied slightly (<2%). Total statistics include all subjects who could be categorized by foci.

  * Chi square ≤0.001.

an organization were significantly more likely ($p = .039$) to have all aspects of change completed (82.9%) than those initiated by students (20.9%).

Foci and Leadership. Respondents were able to report if the project included three major foci: clinical practice/ care delivery reorganization, evidence-based practice initiative, and public or professional organization policy change. The majority of respondents identified that the DNP project had focused on an evidence-based practice initiative (82%). Fifty-nine percent reported the project included clinical practice/care delivery reorganization and 26% indicated public or professional organizational policy change. The numbers sum to more than 100% because some projects included two or more foci.

   The ability of respondents to choose multiple foci as being part of their DNP projects resulted in our decision to examine combinations of foci. Five major combinations resulted: (a) REORG, clinical practice/care delivery reorganization only ($n = 151$; 11.5%); (b) EB + EBP/REORG, evidence-based practice initiative only and evidence-based practice initiative combined with reorganization ($n = 755$; 57.7%); (c) POLICY, public or professional organization policy change only ($n = 71$; 5.4%); (d) ALL, all three foci ($n = 151$; 11.5%); and (5) POLICY/EBP, public or professional organization policy change combined with evidence-based practice ($n = 48$; 3.7%). Ten percent of respondents did not answer all items required for assignment to a group and were omitted from any analyses by focus(i).

   Almost all respondents indicated being leaders of their projects (94.8% of those reporting a clinical practice or care delivery reorganization focus as part of the

DNP project, 92.1% of those engaged in an evidence-based practice initiative and 86.5% of those involved in a public or professional organization policy change).

Activities. Respondents reported activities that were a part of the DNP project in widely varying proportions. Three quarters (75.3%) indicated education of health professionals was a part of the project. The next most frequently reported activities were survey development, execution and/or analysis (48.4%), program evaluation (45%), program development (43.3%), and education of patients and their significant others (36.5%). Less frequently reported activities included tool development other than a survey or interview guide (30.3%), interviewing (28.7%), education of students in the health professions (26.8%), education of the public (24.4%), and information technology development (18.1%).

   There was variation in reports of types of activities performed as part of the DNP project by foci (Table 1). The ALL subject members ($n = 151$), although a small proportion of the respondents, were the most likely to report cohesive participation, i.e., greater than 50% of all members of the group reporting participation in a given activity. The two activities reported by the majority of largest foci group (EBP + EBP/REORG) were education of health professionals (80.3%) and the conduct of surveys (49.7%).

   Of the eleven major activities studied, the average (SD) number of project activities was 4.3 (2.3). The median for EBP, EBP + EBP/REORG, and POLICY/EBP was 4 compared with a median of 3 for REORG and 6 for ALL. The combinations of activities varied by number of foci and number of activities reported.

Table 2 – Project Outcome/Products by DNP Project Focus(i)

Project Outcomes/Products	DNP Project Foci (N = 1,176) (%)					
	REORG (1) (n = 151)	EBP + EBP/REOR (2) (n = 755)	POLIC (3) (n = 71)	ALL (4) (n = 151)	POLICY/EB (5) (n = 48)	Total (N = 1,176)
Guideline						
Development	19.2	32.8	22.5	64.9	47.9	35.2
Evaluation	20.5	33.1	18.3	63.6	41.7	34.9
Implementation	25.8	42.0	16.9	72.2	41.7	42.3
Adherence	17.2	30.7	14.1	52.3	29.2	30.7
Education						
Providers	47.0	64.6	39.4	74.2	72.9	62.4
Patients	24.5	31.1	9.9	40.4	22.9	29.8
Care delivery model	28.5	27.2	19.7	49.0	29.2	29.8
Patient (family) focused care	27.2	32.1	9.9	45.7	18.8	31.3
Satisfaction (any target)	17.9	26.5	22.5	43.0	33.3	27.6
Barriers to care/access	21.2	25.3	28.2	49.7	29.2	28.2
Risk assessment	11.9	23.4	9.9	41.7	35.4	24.0
Practice relationships	15.9	21.1	23.9	44.4	29.2	23.9
Patient behavior	13.9	22.9	9.9	29.8	12.5	21.4
Perceptions/attitudes/beliefs	34.4	37.9	39.4	53.0	60.4	40.4

Notes. ALL, clinical practice/care delivery reorganization and evidence-based practice initiative and public and/or professional organizational policy change; EBP + EBP/REORG, evidence-based practice initiative only or with clinical practice/care delivery reorganization; POLICY, public and/or professional organizational policy change only; POLICY/EBP, public and/or professional organizational policy change and evidence-based practice initiative; REORG, clinical practice/care delivery reorganization only.

Table 3 – DNP Project Focus(i) by Current Position

Reported DNP Project Focus(i)	Current Position (N = 1,092) (%)				Total (N = 1,092)
	Administrator[a] (n = 199)	Faculty[b] (n = 203)	CRNA[c] (n = 289)	NP[d] (n = 401)	
Clinical practice/care delivery reorganization only (REORG)	16.6	10.8	9.7	13.5	12.5
Evidence-based practice initiative only or with clinical practice/care delivery reorganization (EBP + EBP/REORG)	63.8	66.0	67.1	61.3	64.2
Public and/or professional organizational policy change only (POLICY)	5.0	9.4	6.2	5.7	6.4
Clinical practice/care delivery reorganization and evidence-based practice initiative and public and/or professional organizational policy change (ALL)	11.1	8.4	12.5	15.7	12.6
Public and/or professional organizational policy change and evidence-based practice initiative (POLICY/EBP)	3.5	5.4	4.5	3.7	4.2

a = administrator included administrator/assistant administrator of organization/facility/agency or of nursing; b = faculty included dean/director/associate/assistant dean/director/faculty; c = CRNA, Certified Registered Nurse Anesthetist; d = NP, Nurse Practitioner.
Total represents all four position titles.

Outcomes. Respondents indicated a variety of outcomes with teaching/learning/knowledge of providers (59.1%) and perceptions/attitudes/beliefs (39.4%) the most frequently reported. Guideline implementation (38.6%), guideline development (32.7%), guideline evaluation (32.3%), tool development (30%), teaching/learning/knowledge of patients (27.8%), barriers to care/access to care (26.2%), satisfaction (25.8%), practice relationship (22.5%), risk assessment (22.3%), and patient behavior, factors, or description (20.3%) occurred less frequently.

There was variation in the types and numbers of reported outcomes by foci (Table 2). The most frequently reported outcomes were provider education (62.4%), guideline implementation (42.3%), and changes in perceptions/attitudes/beliefs (40.4%).

Of the 14 outcomes studied, the average (SD) number of outcomes was 4.6 (3.1). The median for EPB + EBP/REORG and POLICY/EBP was 4; the median was 3 for the reorganization focus. Those with a policy only focus had a median of two activities. Those who indicated their projects encompassed all three foci reported a median of seven outcomes. The combinations of activities varied by number of foci and number of outcomes reported.

Table 4 – DNP Project Activities by Current Position

Project Activities	Current Position (N = 1,212) (%)				
	Administrator[a] (n = 226)	Faculty[b] (n = 216)	CRNA[c] (n = 335)	NP[d] (n = 435)	(N = 1,212)
Educate					
Public	17.7	25.5	20.3	29.7	24.1
Patients/others*	28.8	36.1	22.4	51.7	36.6
Health profession students*	18.6	27.3	34.0	25.5	26.9
Health professionals	77.4	74.5	78.5	72.2	75.3
Develop					
Program*	57.1	42.1	27.8	47.6	42.9
Tools other than survey or guide*	28.3	26.9	21.5	39.1	30.0
Information technology	23.9	13.9	14.6	17.2	17.2
Conduct					
Surveys	53.1	48.6	42.1	51.7	48.8
Interviews*	33.6	27.8	16.4	34.9	28.3
>1 comparison group*	42.5	30.1	26.9	29.7	31.4
Evaluate program*	58.0	45.4	28.1	49.0	44.2

a = administrator included administrator/assistant administrator of organization/facility/agency or of nursing; b = faculty included dean/director/associate/assistant dean/director/faculty; c = CRNA, Certified Registered Nurse Anesthetist; d = NP, Nurse Practitioner.
Total represents all four position titles. The number of subjects reporting activities across categories varied slightly (<2%).

* Chi square ≤0.001.

Table 5 – DNP Project Focus(i) and Postgraduation Experience

Postgraduation Experience	DNP Project Foci (N = 1,176) (%)				
	REORG (1) (n = 151)	EBP + EBP/REORG (2) (n = 755)	POLICY (3) (n = 71)	ALL (4) (n = 151)	POLICY/EBP (5) (n = 48)
Quality initiative design and implementation					
Participant	19.2	22.6	22.5	25.8	20.8
Leader	31.1	34.7	21.1	40.4	27.1
Organizational change					
Participant	15.9	21.3	19.7	31.1	27.1
Leader	39.1	37.4	46.5	45.0	41.7
Local policy change					
Participant	17.2	18.9	23.9	26.5	20.8
Leader	6.6	10.2	18.3	21.2	16.7
State policy change					
Participant	15.9	18.3	23.9	23.2	25.0
Leader	4.6	4.9	16.9	9.3	8.3
Federal or international policy change					
Participant	4.6	7.9	12.7	12.6	8.3
Leader	0.7	1.6	2.8	1.3	8.3

Notes. ALL, clinical practice/care delivery reorganization and evidence-based practice initiative and public and/or professional organizational policy change; EBP + EBP/REORG, evidence-based practice initiative only or with clinical practice/care delivery reorganization; POLICY, public and/or professional organizational policy change only; POLICY/EBP, public and/or professional organizational policy change and evidence-based practice initiative; REORG, clinical practice/care delivery reorganization only.
The number for each experience varied slightly (<2%) because of missing data. Each respondent reported participant and leadership roles separately, thus some respondents were both participant and leaders postgraduation.

Aim 2

Relationship of Project Foci with Postgraduation Work Activities. To examine these relationships, analysis was conducted based on the four most common positions reported by the DNP subjects: (a) administrator/assistant administrator of health organizations, facility, or nursing services (18.6%); (b) educational administrator or faculty (17.8%); (c) CRNA (27.6%); (d) NP (35.9%). This analytic approach was taken for two reasons. The first reason is analysis by organization membership indicated intraorganizational variation by position was greater than interorganizational variation (Minnick, et al., 2019). In other words, variation

by position better explains variation. The second is that the four position types represent over 90% of respondents.

There was no consistent statistical relationship between DNP foci and the current position of subjects (Table 3). On the basis of individual positions, holders of noneducational administrative positions were almost 80% more likely than CRNAs to have completed a reorganization only focused DNP project. There were differences in reported DNP project activities and subjects' current position titles (Table 4). There were relatively low percentages reported for some activities that might be expected to be related to subsequent positions (e.g., 27.3% of educators vs. 34% of CRNAs reported the DNP project included the education of students in the health professions).

Experience with eight efforts related to the purpose of the DNP was measured in terms of serving as participants and/or leaders postgraduation (Table 5). Almost 55% of those who reported policy-related project foci were involved in some sort of policy activity. More than half (57.4%) had participated in or led a quality improvement project. Of the most common postgraduation activities studied, 71% of DNP graduates had not participated in a local, state, or federal policy change after graduation; 84.6% never led one. Almost 43% had no experience (participants or leaders) in organization change. A small percent of subjects identified participation or leadership of an externally funded research grant (e.g., 5.3% reported leading one), beginning an APRN clinic (7.6%) and educational/training grant activities (approximately 6%). These activities were not reported as the DNP project foci.

There were no large proportions of any foci group graduates leading or participating in activities related to their DNP project focus(i) with one exception (Table 5). The one exception in this lack of relationship between project and postgraduation activities occurs if one constructs a variable representing participation or leadership in policy of any type (local, state, and federal) with the result that almost 55% of those who reported a policy related project foci were involved in some sort of policy activity.

Discussion

The current study adds information about the impetus, focus, activities, and outcomes from a broad sample of respondents. The information about each of these aspects along with specific recommendations for further research is discussed first. An additional discussion of how findings from this study as well as those from our previously reported work regarding DNP graduates reports of employment conditions and perceived degree value might be used to guide DNP project reconceptualization follows.

Impetus

The fact that most projects (65.2%) were the students' ideas for which they had to seek out an organization makes it important for future research to determine the effects of student initiated projects. It may be that a project results in improvement within the time the student is involved but it is also possible that the project was not completed or sustained after the student completed degree requirements. If so, the organizational costs (e.g., administrative and staff time used in project execution) of the project that could have been devoted to other organizational priorities are lost. Project sustainability and return on organizational investment needs to be assessed. As noted by Murphy et al., developing DNP program practice partnerships helps identify truly relevant goals, priorities, and initiatives (Murphy, Staffileno, Hinch, & Carlson, 2018). If an educational priority is for the students to learn to work within the broader strategic plan of an organization, perhaps projects that are linked to organizational priorities or to ongoing or planned clinical change initiatives, might be more desirable than student initiated projects.

Project Focus

A wide variety of DNP project focus areas/outcomes was reported. These areas/outcomes included guideline development, evaluation, implementation, adherence, patient- and family-focused care, care delivery models, teaching/learning/knowledge of providers and patients, patient behavior, practice relationship, perceptions/attitudes/beliefs, satisfaction, barriers to care/access to care, and risk assessment. Although these areas are consistent with the DNP Essentials document, which identifies that the DNP project foci may include the impact on or outcomes of practice, a practice change initiative, program evaluation, integrated critical literature review, and the use of evidence to improve clinical practice or patient outcomes, among other areas of focus (American Association of Colleges of Nursing, 2006), almost no respondents reported participation in all the activities. The DNP project as currently conceived is not intended to include all of these elements for each student's project.

It is not possible to tell in aggregate how relevant the bolus of DNP projects (thousands per year) is to society and health care but the foci reported by respondents give some indication. For example, almost all of the respondents' projects had evidence-based practice project foci in whole or part. The findings confirm that the EBP recommendation of the DNP Essentials document is being followed yet other questions remain unanswered. Students are expected to demonstrate integration of the DNP Essentials throughout didactic and practice immersion experiences. The DNP project emphasizes improvement in health care outcomes based on evidence. Educators should determine whether or not the amount of emphasis on EBP initiatives via the DNP project is desirable based on the many other objectives of the DNP degree. Workforce

and organizational process data should be consulted to determine the content and skills most applicable to the roles the DNP graduates assume. As health care becomes ever more driven by big data, organizational EBP projects are likely to continue to be led by work units or departments dedicated to EBP project design and execution. Nurses with a DNP are well positioned to lead or be a member of these EBP teams; however, not all DNPs will engage in these activities. Consistent with the DNP Current Issues and Clarifying Recommendations document (American Association of Colleges of Nursing, 2015), and as with research-focused doctoral programs, DNP graduates who desire a faculty role will need preparation to be an educator. DNP curricular design should include consideration of competencies needed for DNPs who want to assume a faculty or administrator role.

Project Activities and Outcomes

There was wide variation in the number and types of activities and of outcomes reported. The study was not designed to determine the didactic preparation of students before or during their projects. For example, some respondents reported tool development unrelated to a survey as an outcome of the DNP project. Given the need to review literature to determine if a tool is needed within an area and to adhere to rigorous instrument testing and evaluation, identifying how this was done, if at all, and with what type of rigor within the relatively short time frame of a DNP project is important.

The expertise with which each reported project activity was enacted was not ascertained by this survey. Although all outcomes (e.g., guideline development, guideline evaluation, patient- and family-focused care) listed in the DNP Essentials document were reported to have occurred by at least some respondents, only education of providers was reported by a majority (62.4%) as an outcome. Among the activities, the education of health professions (80%), and the conduct of surveys (51.2%) were reported by the majority yet content related to education is represented in only a minority of DNP programs and the conduct of surveys is most likely not comprehensive given the total time given to research and survey development in a typical DNP program. This raises questions about how DNP programs prepare graduates for the projects and what expertise can reasonably be expected for each activity. One other unknown but important area for exploration is if there are adverse outcomes.

The extent to which direct project experience in the many areas listed in the Essentials document can reasonably be part of a meaningful project cannot be ascertained by our findings. Educators may need to come to consensus about the extent of competency required, as well as how the graduate can demonstrate the ability to produce each outcome while in the program. This would enable the nursing profession to clarify to employers the level of each skill that can be expected from someone who holds the DNP.

The Project and Postgraduation Work Activities

The lack of large proportions of graduates reporting postgraduation experiences with activities that were part of their DNP project foci may indicate a need to further explore if current project aims and structures are related well to employment realities. For example, few projects resulted in the education of students yet a sizable proportion of DNPs become faculty members (Minnick, et al., 2019). Given previously reported findings that DNP education programs typically do not include education courses (Minnick, Norman, Donaghey, Fisher, & McKirgan, 2010), the question of what constitutes adequate faculty preparation remains. Another example concerns those in practitioner roles who reported low or no rate of participation in activities related to DNP projects despite years of post-DNP experience (Minnick, et al., 2019). Projects that emphasize administrative report writing rather than scholarly journal writing might be more valuable.

Discussion and Recommendations

Two broad categories around which to base a discussion and consider recommendations about the DNP project emerge from these data. The first category concerns how the DNP program fulfills societal needs. It is only from being clear on this point that one can select the program activities that allow for (a) development of the abilities that meet these needs and (b) testing of the students' competencies. If society needs nursing to prepare advanced practice nurses, administrators, and educators, DNP programs must be able to demonstrate what program activities and related evaluation methods prepare graduates for each role. It is only that kind of demonstration that will ensure society's willingness to provide financial, regulatory, and intellectual resources. Determining how each learning activity meets the ability, development, and competency criteria would improve not only the DNP project structures but also other aspects of the DNP program. It is not within the scope of our data to make a prescription about the societal purposes of the DNP degree but our contention is that a learning activity such as the DNP project cannot be improved upon until societally based degree purposes are delineated specifically.

The second category of general discussion concerns how a specific learning activity such as a project is determined. The principles include (a) activities are linked directly to program objectives; (b) activities are as resource sparing as possible to the student, the educational enterprise, and the enterprises that may support learning (e.g., clinical facilities); (c) linkages to

evaluation mechanisms are applied across program participants to ensure product consistency, i.e., each graduate's competencies are identifiable to consumers such as employers by virtue of their degree. If every program applied these principles to their current guidelines for the DNP project, alignment with the DNP Essentials and the DNP Current Issues and Clarifying Recommendations (American Association of Colleges of Nursing, 2006, 2015) would be inevitable. Beyond changes within the project, alternative behavioral activities might be found and incorporated into relevant courses or in a portfolio approach to documenting attainment of competencies. Reflection on these principles may identify alternative learning activities to demonstrate fulfillment of the expected competencies in lieu of individual or group projects. Additionally, providing opportunities for involvement in organizational project initiatives or planned clinical change projects may also help DNP students to maximize their learning and implementation of a DNP project linked to such activities.

Limitations

The results can be generalized to only DNP members of the three professional organizations from which the sample was drawn. For example, nurse midwives were not included. Clinical nurse specialists are represented only if they held AONE membership at the time of the study. Their foci, activities, and outcomes may have been different. The study was not designed to assess why projects were chosen nor the quality of project execution. The study was not designed to assess the magnitude of project impact.

Summary

The results of the study provide new information relevant for DNP education and practice. Considering the effects of the DNP project's parameters and requirements on organizations and the ability of nursing to attest to educational product consistency is essential. Additionally, ensuring that the DNP project results in meaningful outcomes is a priority.

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Supplementary materials

Supplementary material associated with this article can be found in the online version at doi:10.1016/j.outlook.2019.05.012.

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